ABSTRACT OF THE DISCLOSURE

A Micro-Electro-Mechanical Systems (MEMS) actuator employs electrostatic comb electrodes to position optical elements along multiple axes. In one embodiment, an actuator assembly includes an actuator support, typically a silicon wafer, supporting a fixed comb with a plurality of teeth. A frame flexibly connected to the actuator support includes a complementary set of movable comb electrodes, the teeth of which are arranged interdigitally with the teeth of the fixed combs. The frame can be tilted with respect to the actuator support along a first fulcrum axis by applying a potential difference between the fixed and movable combs. Each actuator assembly also includes an actuated member, a mirror mount in one embodiment, flexibly connected to the frame. The actuated member and the frame include electrically isolated, interdigitated, combs. The actuated member can be moved relative to the frame along a second fulcrum axis by applying a potential between these interdigitated combs. A bonding process for fabrication of an array of actuators is described.